

SEQUENCE LISTING

JC20 Rec'd PCT/PTO 05 JUL 2005

<110> bioMérieux
Centre National de la Recherche Scientifique (CNRS) [National Center for
Scientific Research]
University Claude Bernard Lyon 1

<120> Polypeptides F' of the hepatitis C virus, T epitopes, and the diagnostic
and therapeutic applications thereof

<130> Polypeps F'

<150> FR03/00094
<151> 2003-01-07

<160> 434

<170> PatentIn version 3.1

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 20 25 30

Xaa Gly Xaa Ser Xaa Gly Xaa Xaa Gly Xaa Ser Xaa Xaa Xaa Arg Xaa
 35 40 45

Xaa Xaa Gly Xaa Asp Gly Ser Cys Xaa Pro Xaa Xaa Xaa Gly Leu Xaa
 50 55 60

Gly Ala Xaa Xaa Thr Pro Xaa Xaa Gly Xaa Xaa Xaa Trp Val Xaa Ser
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Gly | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
50 55 60

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Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
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Ser Ser Ala

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20 25 30

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35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Val Leu Gly Leu Val
50 55 60

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Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
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Ser Ser Ala

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Gly | Pro | Arg | Val | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Gln | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Ser | Arg |
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Ser Ser Ala

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Gly | Pro | Arg | Val | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Leu | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Gln | Thr | Pro | Gly | Val | Gly | Arg | Val | Thr | Trp | Val | Lys | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Gly | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Leu | Gly | Ile | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Leu | Met | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Ile | Pro | Leu | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Ser | Arg |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Gly | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Leu | Gly | Ile | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Met | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Ile | Pro | Leu | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Gly | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Ile | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Leu | Gly | Leu | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Leu | Pro | Thr | Pro | Gly | Val | Gly | Arg | Val | Thr | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Ile | Pro | Leu | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Gly | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Leu | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Gln | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Ile | Pro | Leu | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
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Ser Ser Ala

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 20 25 30
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 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Leu Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

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 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Leu Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
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 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Thr Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

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 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

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Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35           40           45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
          50           55           60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65           70           75           80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85           90           95
Ser Ser Ala

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          20           25           30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35           40           45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
          50           55           60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65           70           75           80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85           90           95
Ser Ser Ala

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 20 25 30
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Leu Pro Thr Ser Trp Gly Thr Phe Arg
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 20 25 30
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Arg Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Leu Pro Thr Ser Trp Gly Thr Phe Arg
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 20 25 30
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Leu Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg
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 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
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 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 21
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 21

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 22
 <211> 99
 <212> PRT
 <213> Artificial Sequence
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 <223> anti-HCV immunogenic peptide
 <400> 22

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Phe Ala Asp Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Pro Thr Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 23
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 23

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Pro Thr Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 24
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 24

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Ala
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Leu Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 25
 <211> 99
 <212> PRT
 <213> Artificial sequence
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 <223> anti-HCV immunogenic peptide
 <400> 25

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 26
 <211> 99
 <212> PRT
 <213> Artificial Sequence
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 <223> anti-HCV immunogenic peptide
 <400> 26

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Gly Ala Leu Gly Leu Val
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Leu Ser Ala

<210> 27
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 27

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Val
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Val
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Leu Ser Ala

<210> 28
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 28

Ser Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30

[illegible]

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<210> 29
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 29
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[illegible]

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<210> 30
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 30
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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Phe Ala Gly Pro Arg Ala Gly
20 25 30

[illegible]

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<210> 31
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 31
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[illegible]

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<210> 32
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 32
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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Ile
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
 50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Leu Ser Ala

<210> 33
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 33

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly His Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Arg Gly Leu Val
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Leu Ser Ala

<210> 34
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 34

Gly Trp Val Cys Ala Arg Gly Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Ala Asp Asn Leu Ser Pro Arg Leu Ala Val Pro Arg Glu Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val
 35 40 45

Trp Gly Gly Leu Asp Gly Ser Cys His Pro Glu Ala Pro Gly Leu Val
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Ser Ser Ala

<210> 35
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 35

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Pro Gly Leu Val
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Ser Ser Ala

<210> 36
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 36

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Val
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser Gln Val Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 37

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 37

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Pro Gly Pro Ser Met Ala Met Arg Val
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Gln Thr Pro Gly Ala Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 38

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 38

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Pro Gly Pro Ser Met Ala Met Arg Val
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Gln Thr Pro Gly Ala Gly Arg Val Ile Trp Val Gly Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 39

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 39

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Pro Gly Pro Ser Met Ala Met Arg Val
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 40

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 40

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Leu Ser Met Ala Met Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Ser Ser Ala

<210> 41
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 41

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Leu Ser Met Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Arg Pro Val Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Ser Ser Ala

<210> 42
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 42

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Leu Ser Met Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Arg Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

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<210> 43
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>
<223> anti-HCV immunogenic peptide

<400> 43

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Leu Ser Ala

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<210> 44
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>
<223> anti-HCV immunogenic peptide

<400> 44

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 45
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 45

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Asp | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Ile | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Pro | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 46
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 46

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Asp | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Pro | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Ile | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 47
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 47

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Asp | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Asp | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Pro | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Thr | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Leu | His | Ala | Ala | Ser | Pro | Ile | Ser | Trp | Gly | Ile | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 48
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 48

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Gln | Arg | Leu | Ala | Asn | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Pro | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Thr | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Leu | His | Ala | Ala | Ser | Pro | Ile | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 49
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 49

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Val | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Gln | Arg | Leu | Ala | Asn | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Pro | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Thr | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ser | Ile | Pro | Leu | His | Ala | Ala | Ser | Pro | Ile | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 50
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 50

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Asn | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Val | Ala | Pro | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ser | Ile | Pro | Leu | His | Ala | Ala | Ser | Pro | Ile | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 51
 <211> 99
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> anti-HCV immunogenic peptide

 <400> 51

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Val Asp Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 52
 <211> 99
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> anti-HCV immunogenic peptide

 <400> 52

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Val Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 53
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide
 <400> 53

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Val Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 54
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide
 <400> 54

Gly Trp Val Cys Ala Arg Pro Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Leu Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 55
 <211> 99

<212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 55

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 56
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 56

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Pro Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 57
 <211> 99
 <212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 57

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Lys Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Glu Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 58

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 58

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 59

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 59

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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1           5           10           15
Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
          20           25           30
Pro Gly His Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35           40           45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
          50           55           60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65           70           75           80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85           90           95

Ser Ser Ala

```

<210> 60

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 60

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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1           5           10           15
Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
          20           25           30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35           40           45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50           55           60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65           70           75           80
Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85           90           95

Ser Ser Ala

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<210> 61

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 61

Gly Trp Val Cys Ala Arg Ser Gly Arg Leu Pro Ser Gly Arg Asn Pro
 1 5 10 15
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 62

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 62

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 63

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 63

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Arg Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 64

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 64

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Thr Ala Thr Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Val Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 65

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 65

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Arg Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Ile Phe Arg
 85 90 95
 Ser Ser Ala

<210> 66
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 66

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Asn Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Leu Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Leu Ser Ala

<210> 67
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 67

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Asn Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Leu Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 68
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 68

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 69
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 69

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Phe Ala Ser Pro Arg Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Ser Ser Ala

<210> 70
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 70

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Ser Ser Ala

<210> 71
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 71

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Ile
 50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Ser Ser Ala

<210> 72
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 72

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60

Gly Ala Pro Pro Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95

Ser Ser Ala

<210> 73
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 73

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly
 20 25 30

[illegible]

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<210> 74
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 74
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[illegible]

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<210> 75
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 75
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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

[illegible]

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<210> 76
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 76
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[illegible]

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<210> 77
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 77
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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60

Gly Ala Pro Thr Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Leu Ser Ala

<210> 78

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 78

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60

Gly Ala Pro Thr Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Leu Ser Ala

<210> 79

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 79

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Leu Ser Ala

<210> 80
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 80

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Leu Ser Ala

<210> 81
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 81

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 82

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 82

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 83

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 83

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 84
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 84

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 85
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 85

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Pro Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

| | |
|-------|---------------------|
| <210> | 86 |
| <211> | 99 |
| <212> | PRT |
| <213> | Artificial Sequence |

<220>
<223> anti-HCV immunogenic peptide

<400> 86

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Ser | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Leu Ser Ala

| | |
|-------|---------------------|
| <210> | 87 |
| <211> | 99 |
| <212> | PRT |
| <213> | Artificial sequence |

<220>
<223> anti-HCV immunogenic peptide

<400> 87

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

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<210> 88
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>
<223> anti-HCV immunogenic peptide

<400> 88

Gly Trp Val Cys Ala Gln Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Gly | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Gly | Pro | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Val | Thr | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |

Trp Asp Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Leu Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

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<210> 89
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>
<223> anti-HCV immunogenic peptide

<400> 89

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Ile
50 55 60

Gly Ala Leu Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 90
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 90

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Val | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Asp | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Val | Ile | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | Pro | Pro | Val | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Met | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | His | Ala | Val | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 91
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 91

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Ser | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Ile | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Val | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 92
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 92

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Ser | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Ile | Pro | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Val | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 93
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 93

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Ser | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | His | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Val | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 94
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 94

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
```

<210> 95
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 95

```
Gly Trp Val Cys Ala Arg Arg Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Leu Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Ile
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Lys Ser
65          70          75          80
Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
```

<210> 96
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 96

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Ile
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Lys Ser
65          70          75          80
Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
          85          90          95
Ser Ser Ala
```

<210> 97
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 97

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Lys Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
```

<210> 98
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 98

Gly Trp Val Cys Ala Arg Arg Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Pro Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 99
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 99

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Gly Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 100
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide
 <400> 100

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Gly Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Gly

<210> 101
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide
 <400> 101

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Phe Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Leu Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 102
 <211> 99

<212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide

<400> 102

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Ser | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | Leu | Pro | Ala | Ala | His | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Met | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 103
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide

<400> 103

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Ser | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Val | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Ala | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 104
 <211> 99
 <212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 104

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1           5           10           15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
           20           25           30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
           35           40           45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
           50           55           60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65           70           75           80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
           85           90           95

Ser Ser Ala

```

<210> 105

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 105

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1           5           10           15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
           20           25           30
Pro Gly Leu Ser Pro Gly Thr His Gly Pro Ser Met Ala Thr Arg Ala
           35           40           45
Trp Gly Gly Gln Asp Gly Ser Cys Pro Pro Val Ala Leu Gly Leu Ile
           50           55           60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65           70           75           80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
           85           90           95

Ser Ser Ala

```

<210> 106

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 106

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Leu Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr His Gly Pro Ser Thr Ala Thr Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Pro Pro Val Ala Pro Gly Leu Ala
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 107

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 107

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala
 35 40 45
 Trp Asp Gly Arg Asp Gly Ser Cys Pro Pro Val Val Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 108

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 108

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45
 Trp Asp Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 109

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 109

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Leu Gly Thr Pro Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Asp Gly Gln Asp Gly Ser Cys Pro Pro Ala Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Leu Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 110

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 110

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Leu Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 111
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 111

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Pro
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Leu Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 112
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 112

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ile Pro Arg Val Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 113
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 113

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Pro Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Pro Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Thr Pro Pro His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 114
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 114

Gly Trp Val Cys Ala Gln Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ile Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Leu Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 115
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 115

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Thr Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 116
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 116

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Ala Gly
 20 25 30
 Thr Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 117
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 117

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Thr Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Phe Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 118
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 118

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30

[illegible]

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<210> 119
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 119
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[illegible]

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<210> 120
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 120
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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys Pro Pro Ala Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 121
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 121

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Ile
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 122
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 122

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Phe Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 123
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 123

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 124
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 124

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 125
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 125

Gly Trp Val Cys Ala Arg Pro Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Thr Ala Pro Gly Leu Gly
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Gly

<210> 126
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 126

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Thr Ala Pro Gly Leu Gly
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 127

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 127

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Thr Ala Pro Gly Leu Gly
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 128

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 128

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
85 90 95

Ser Ser Ala

<210> 129

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 129

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu
1 5 10 15

Val Ala Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
85 90 95

Ser Ser Ala

<210> 130

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 130

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95

Ser Ser Val

<210> 131
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 131

Gly Trp Val Cys Ala Arg Pro Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Val Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 132
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 132

Gly Trp Val Cys Ala Arg Ser Gly Arg Leu Pro Ser Gly Arg Asn Leu
 1 5 10 15
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
 35 40 45
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Val Leu Gly Leu Val
 50 55 60
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
 65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

```
<210> 133
<211> 99
<212> PRT
<213> Artificial Sequence
```

<220>
<223> anti-HCV immunogenic peptide

<400> 133

| | | | | | | | | | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Gly 1 | Trp | Val | Cys | Ala 5 | Arg | Leu | Gly | Arg | Leu 10 | Pro | Ser | Gly | His | Asn 15 | Leu |
| Val | Glu | Gly | Asp 20 | Asn | Leu | Ser | Pro | Arg 25 | Leu | Ala | Val | Pro | Arg 30 | Ala | Gly |
| Pro | Gly | Leu 35 | Ser | Pro | Gly | Thr | Leu 40 | Gly | Pro | Ser | Met | Ala 45 | Met | Arg | Ala |
| Trp | Gly 50 | Gly | Gln | Asp | Gly | Ser 55 | Cys | His | Pro | Glu | Ala 60 | Pro | Gly | Leu | Ile |
| Gly 65 | Ala | Pro | Arg | Thr | Pro 70 | Gly | Val | Gly | Arg | Val 75 | Ile | Trp | Val | Arg | Ser 80 |
| Ser | Ile | Pro | Ser | His 85 | Ala | Ala | Ser | Pro | Thr 90 | Ser | Trp | Gly | Thr | Phe 95 | Arg |

Ser Ser Ala

```
<210> 134
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>
<223> anti-HCV immunogenic peptide

<400> 134

| | | | | | | | | | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Gly 1 | Trp | Val | Cys | Ala 5 | Arg | Leu | Gly | Arg | Leu 10 | Pro | Ser | Gly | Arg | Asn 15 | Leu |
| Val | Glu | Gly | Asp 20 | Asn | Leu | Ser | Pro | Arg 25 | Leu | Ala | Asn | Pro | Arg 30 | Ala | Gly |
| Pro | Gly | Leu 35 | Ser | Pro | Gly | Thr | Leu 40 | Gly | Pro | Ser | Met | Pro 45 | Met | Arg | Ala |
| Trp | Gly 50 | Gly | Gln | Asp | Gly | Ser 55 | Cys | His | Pro | Glu | Ala 60 | Pro | Gly | Leu | Ile |
| Gly 65 | Ala | Pro | Arg | Thr | Pro 70 | Gly | Val | Gly | Arg | Val 75 | Ile | Trp | Val | Arg | Ser 80 |
| Ser | Ile | Pro | Leu | His 85 | Ala | Ala | Ser | Pro | Thr 90 | Ser | Trp | Gly | Thr | Phe 95 | Arg |

Ser Ser Ala

<210> 135
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 135

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Asn | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Val | Ala | Leu | Gly | Leu | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ser | Ile | Pro | Ser | His | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 136
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 136

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Ile | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Leu | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Val | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Ala | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ser | Ile | Pro | Ser | Arg | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 137
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 137

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Val | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Val | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Ala | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ser | Ile | Pro | Ser | Arg | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Leu Ser Ala

<210> 138
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 138

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Gly | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Val | Val | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Ala | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ser | Ile | Pro | Ser | Arg | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 139
 <211> 99
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> anti-HCV immunogenic peptide

 <400> 139

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu
1          5          10          15
Val Asp Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
          20          25          30
Pro Gly Pro Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
  
```

<210> 140
 <211> 99
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> anti-HCV immunogenic peptide

 <400> 140

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Arg Gly Ile Leu Gly Pro Ser Met Ala Thr Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Val
  
```

<210> 141
 <211> 99
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> anti-HCV immunogenic peptide

 <400> 141

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Leu | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Ser | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Pro | Ser | Pro | Gly | Ile | Leu | Gly | Pro | Ser | Met | Ala | Thr | Arg | Ala |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Val | Ala | Leu | Gly | Leu | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | Arg | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Phe | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 142
 <211> 99
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> anti-HCV immunogenic peptide

 <400> 142

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Ala | Arg | Pro | Gly | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Glu | Gly | Asp | Asn | Leu | Ser | Pro | Arg | Leu | Ala | Asp | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Ile | Leu | Gly | Pro | Ser | Met | Ala | Met | Arg | Ala |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Trp | Gly | Gly | Gln | Asp | Gly | Ser | Cys | His | Pro | Met | Ala | Leu | Gly | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Pro | Arg | Thr | Pro | Gly | Val | Gly | Arg | Val | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ile | Pro | Ser | Arg | Ala | Ala | Ser | Pro | Thr | Ser | Trp | Gly | Thr | Ser | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Ser Ser Ala

<210> 143
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 143

```
Gly Trp Val Cys Ala Arg Pro Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Thr Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Ile
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
          85          90          95
Ser Ser Val
```

<210> 144
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 144

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Pro Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
```

<210> 145
 <211> 99

<212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide

<400> 145

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr His Gly Pro Ser Met Ala Met Arg Val
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Asp Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
```

<210> 146
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 146

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Ala Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Pro Met Arg Ala
          35          40          45
Trp Gly Gly Arg Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
```

<210> 147
 <211> 99
 <212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 147

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Pro Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Val Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

<210> 148

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 148

```

Arg Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Ala Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

<210> 149

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 149

```

Arg Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Gly Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

<210> 150

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 150

```

Ser Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Gly Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Gln Thr Pro Gly Val Gly His Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Val Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

<210> 151

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> D, N, S, Y or G

<220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> A or V

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> R, Q, K or L

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> R, Y, C, F, H, L or P

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> V, A or T

<220>
 <221> MISC_FEATURE
 <222> (9)..(9)
 <223> K, R or N

<220>
 <221> MISC_FEATURE
 <222> (11)..(11)
 <223> L, P or Q

<220>
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Xaa Trp Val Cys Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa
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Ala Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 20 25 30

Pro Gly Xaa Ser Xaa Gly Thr Xaa Gly Xaa Xaa Xaa Xaa Xaa Arg Ala
 35 40 45

Xaa Xaa Xaa Xaa Xaa Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 50 55 60

Gly Xaa Xaa Xaa Thr Pro Gly Xaa Xaa Xaa Ala Xaa Xaa Xaa Xaa Ser
 65 70 75 80

Ser Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ser Trp Gly Xaa Xaa Arg
 85 90 95

Ser Xaa Xaa

<210> 152
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 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 152

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Ser Gly His Ser Leu
 1 5 10 15

Ala Asp Gly Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Met Arg Ala
 35 40 45
 Ala Gly Gly Gln Gly Gly Ser Cys Pro Pro Ala Ala Pro Val His Leu
 50 55 60
 Gly Ala Gln Met Thr Pro Gly Val Gly Pro Ala Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95
 Ser Ser Ala

<210> 153
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 <212> PRT
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 <400> 153

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu
 1 5 10 15
 Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala
 35 40 45
 Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Pro
 50 55 60
 Gly Ala Gln Met Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser
 65 70 75 80
 Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 154
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 <212> PRT
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 <400> 154

Asp Trp Val Cys Ala Arg Pro Val Lys Leu Leu Asn Gly His Ser Leu
 1 5 10 15

Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Thr Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala
 35 40 45
 Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Leu Val His Leu
 50 55 60
 Gly Ala Gln Met Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser
 65 70 75 80
 Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 155
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 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 155

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Pro
 1 5 10 15
 Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Arg Ala Glu Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Met Arg Ala
 35 40 45
 Ala Gly Gly Gln Gly Gly Ser Cys Pro Arg Ala Ala Pro Val His Leu
 50 55 60
 Gly Ala Gln Met Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser
 65 70 75 80
 Ser Ile Pro Leu Arg Val Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 156
 <211> 99
 <212> PRT
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 <223> anti-HCV immunogenic peptide
 <400> 156

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly Arg Ser Leu
 1 5 10 15
 Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly
 20 25 30

[illegible]

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<220>
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<400> 157
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[illegible]

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<400> 158
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Asp | Asp | Asp | Ser | Leu | Ser | Pro | Arg | His | Val | Gly | Ala | Lys | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |

Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala
 35 40 45

Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Leu
 50 55 60

Gly Ala Gln Thr Thr Pro Gly Asp Gly Pro Ala Ile Trp Val Lys Ser
 65 70 75 80

Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95

Ser Ser Ala

<210> 159
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<400> 159

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu
 1 5 10 15

Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala
 35 40 45

Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val Gln Leu
 50 55 60

Gly Ala Gln Thr Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser
 65 70 75 80

Ser Ile Pro Leu Arg Ala Val Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95

Ser Ser Ala

<210> 160
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 <212> PRT
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<220>
 <223> anti-HCV immunogenic peptide

<400> 160

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu
 1 5 10 15

Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Met Arg Ala
 35 40 45

Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Leu
 50 55 60

Gly Ala Gln Thr Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser
 65 70 75 80

Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95

Ser Ser Ala

<210> 161
 <211> 99
 <212> PRT
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<220>
 <223> anti-HCV immunogenic peptide

<400> 161

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu
 1 5 10 15

Ala Asp Gly Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Asp
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala
 35 40 45

Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Leu
 50 55 60

Gly Ala Gln Met Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser
 65 70 75 80

Ser Ile Pro Leu Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95

Ser Ser Ala

<210> 162
 <211> 99
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> anti-HCV immunogenic peptide

<400> 162

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu
 1 5 10 15

Ala Asp Gly Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala
 35 40 45

Ala Gly Gly Gln Gly Gly Ser Cys Pro Arg Ala Ala Leu Val His Leu
 50 55 60
 Gly Ala Lys Met Thr Pro Gly Gly Gly Pro Ala Thr Trp Ala Arg Ser
 65 70 75 80
 Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 163
 <211> 99
 <212> PRT
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 <220>
 <223> anti-HCV immunogenic peptide
 <400> 163

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu
 1 5 10 15
 Ala Asp Gly Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly
 20 25 30
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala
 35 40 45
 Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Leu
 50 55 60
 Gly Ala Gln Thr Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Arg Ser
 65 70 75 80
 Ser Ile Pro Ser Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 164
 <211> 99
 <212> PRT
 <213> Artificial Sequence
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 <400> 164

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly Arg Ser Leu
 1 5 10 15
 Ala Asp Gly Glu Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly
 20 25 30
 Pro Gly Pro Ser Leu Gly Thr Leu Gly Pro Ser Met Val Met Arg Ala
 35 40 45
 Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val Gln Ile
 50 55 60

Gly Pro Gln Met Thr Pro Gly Asp Gly Pro Ala Ile Trp Val Lys Ser
 65 70 75 80
 Ser Ile Pro Ser Arg Ala Asp Ser Pro Ile Ser Trp Gly Thr Ser Arg
 85 90 95
 Ser Ser Ala

<210> 165
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide
 <400> 165

Asp Trp Val Cys Ala Gln Leu Val Arg Leu Gln Ser Gly His Asn Pro
 1 5 10 15
 Ala Asp Gly Asp Ser Leu Phe Pro Arg His Ala Arg Ala Glu Asp Gly
 20 25 30
 Pro Gly Arg Ser Leu Gly Thr Pro Gly Pro Ser Met Val Thr Arg Ala
 35 40 45
 Ala Gly Gly Gln Gly Gly Phe Cys Leu Leu Ala Ala Pro Asp Arg Val
 50 55 60
 Gly Ala Pro Thr Thr Pro Gly Glu Gly Pro Ala Ile Trp Val Arg Ser
 65 70 75 80
 Ser Thr Leu Ser His Ala Gly Ser Pro Ile Ser Trp Gly Ile Phe Arg
 85 90 95
 Ser Ser Ala

<210> 166
 <211> 99
 <212> PRT
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 <223> anti-HCV immunogenic peptide
 <400> 166

Asp Trp Val Cys Ala Gln Phe Val Lys Leu Pro Ser Gly Gln Asn Pro
 1 5 10 15
 Ala Thr Gly Gly Ser Leu Ser Pro Arg His Val Gly Ala Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Leu Phe Met Ala Met Arg Ala
 35 40 45
 Val Gly Gly Gln Asp Gly Ser Cys Pro Pro Ala Ala Leu Gly His Leu
 50 55 60

Gly Ala Pro Met Thr Pro Gly Glu Gly Leu Ala Thr Trp Val Lys Ser
65 70 75 80

Ser Ile Pro Leu Arg Ala Asp Ser Pro Ile Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 167

<211> 99

<212> PRT

<213> Artificial Sequence

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<400> 167

Tyr Trp Val Cys Ala Leu His Val Arg Leu Pro Ser Gly His Ser Leu
1 5 10 15

Ala Arg Gly Gly Ser Leu Ser Pro Arg Arg Val Val Ala Arg Asp Gly
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Val Met Arg Ala
35 40 45

Ala Gly Gly Arg Asp Gly Ser Cys Pro Pro Ala Val Leu Gly Arg Ala
50 55 60

Gly Ala Gln Met Thr Pro Gly Glu Asp Pro Ala Ile Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Leu His Ala Gly Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

Ser Ser Ala

<210> 168

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 168

Asp Trp Val Cys Ala Gln Tyr Val Arg Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Ala Asp Gly Val Ser Leu Ser Pro Arg His Ala Arg Ala Arg Ala Gly
20 25 30

Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Thr Glu Met Arg Ala
35 40 45

Val Gly Gly Gln Asp Gly Phe Cys Pro Pro Ala Val Leu Val Leu Ile
50 55 60

Gly Ala Gln Met Thr Pro Gly Val Asp Pro Ala Thr Trp Val Arg Ser
65 70 75 80

Ser Thr Pro Leu His Ala Asp Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Ser Ser Ala

<210> 169
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> anti-HCV immunogenic peptide

<400> 169

Asp Trp Val Cys Ala Gln Tyr Val Arg Leu Pro Ser Gly Arg Ser Leu
 1 5 10 15
 Ala Asn Ser Val Thr Leu Ser Pro Arg Leu Ala Arg Ala Arg Ala Gly
 20 25 30
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Gly Ile Arg Ala
 35 40 45
 Val Gly Trp Gln Asp Gly Ser Cys Pro Pro Val Val Leu Ala Leu Val
 50 55 60
 Gly Ala Gln Met Thr Pro Gly Val Asp Pro Ala Thr Leu Val Arg Ser
 65 70 75 80
 Ser Ile Pro Leu Arg Val Asp Ser Pro Thr Ser Trp Gly Thr Phe Arg
 85 90 95

Ser Ser Ala

<210> 170
 <211> 99
 <212> PRT
 <213> Artificial Sequence
 <220>
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<400> 170

Asn Trp Val Cys Ala Lys Tyr Val Arg Leu Pro Ser Asp His Asn Leu
 1 5 10 15
 Ala Asp Gly Val Ser Leu Pro Pro Arg His Ala Arg Ala Arg Ala Gly
 20 25 30
 Pro Gly Pro Ser Pro Gly Thr Leu Gly Pro Ser Thr Gly Met Arg Ala
 35 40 45
 Val Val Gly Gln Asp Gly Ser Cys Pro Pro Ala Val Leu Ala Pro Ala
 50 55 60
 Gly Ala Lys Met Thr Pro Gly Val Asp Pro Ala Thr Trp Val Arg Ser
 65 70 75 80

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<210> 171
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>
<223> anti-HCV immunogenic peptide

Asp Trp Val Cys Ala Gln Tyr Val Lys Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Ala Asp Gly Val Ser Leu Ser Pro Arg His Ala His Ala Arg Ala Gly
20 25 30

Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Gly Met Arg Ala
35 40 45

Ala Val Gly Gln Asp Gly Phe Cys Pro Pro Val Val Leu Ala Leu Val
50 55 60

Gly Ala Gln Met Thr Pro Gly Val Asp Pro Ala Thr Trp Val Lys Ser
65 70 75 80

Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Phe Arg
85 90 95

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<210> 172
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>
<223> anti-HCV immunogenic peptide

Asp Trp Val Cys Ala Gln Cys Val Asn Leu Pro Ser Gly Arg Asn Leu
1 5 10 15

Ala Asp Gly Gly Ser Leu Ser Pro Arg His Ala Glu Ala Arg Ala Gly
20 25 30

Pro Gly Pro Ser Leu Gly Thr Leu Gly Pro Ser Met Gly Met Arg Ala
35 40 45

Val Gly Gly Gln Asp Gly Ser Cys Leu Pro Val Ala Pro Ala Leu Val
50 55 60

Gly Ala Gln Met Thr Pro Gly Val Asp His Ala Thr Trp Val Arg Ser
65 70 75 80

Ser Ile Pro Ser Arg Val Asp Ser Pro Ile Ser Trp Gly Thr Phe Arg
85 90 95

Ser Leu Val

<210> 173
 <211> 99
 <212> PRT
 <213> Artificial Sequence
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 <223> anti-HCV immunogenic peptide
 <400> 173

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| Asp | Trp | Val | Cys | Ala | Gln | Tyr | Val | Arg | Leu | Pro | Ser | Gly | His | Asn | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Asp | Gly | Ala | Ser | Leu | Ser | Pro | Arg | Arg | Ala | His | Ala | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Leu | Gly | Thr | Pro | Gly | Pro | Phe | Met | Gly | Thr | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Val | Gly | Gln | Asp | Gly | Ser | Cys | Pro | Pro | Ala | Val | Pro | Asp | Pro | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Gln | Met | Thr | Pro | Gly | Ala | Asp | Pro | Ala | Thr | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ser | Ile | Pro | Leu | Arg | Ala | Asp | Ser | Leu | Thr | Ser | Trp | Gly | Ile | Phe | Arg |
| | | | 85 | | | | | 90 | | | | | | 95 | |

Ser Ser Ala

<210> 174
 <211> 99
 <212> PRT
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 <400> 174

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Trp | Val | Cys | Val | Gln | Cys | Ala | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Val | Gly | Ala | Asn | Pro | Ser | Pro | Gly | Arg | Ala | Glu | Pro | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Tyr | Met | Gly | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Gly | Gly | Gln | Gly | Gly | Ser | Cys | Pro | Arg | Ala | Ala | Leu | Ala | His | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Gln | Met | Thr | Pro | Gly | Val | Asp | His | Ala | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ser | Ile | Pro | Ser | Arg | Ala | Asp | Ser | Pro | Thr | Ser | Trp | Gly | Ile | Phe | Arg |
| | | | 85 | | | | | 90 | | | | | | 95 | |

Ser Ser Ala

<210> 175
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 <212> PRT
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 <220>
 <223> anti-HCV immunogenic peptide
 <400> 175

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Trp | Val | Cys | Val | Gln | Cys | Thr | Arg | Leu | Pro | Ser | Gly | Arg | Asn | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Val | Gly | Ala | Asn | Pro | Ser | Pro | Gly | Arg | Ala | Glu | Leu | Arg | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Tyr | Met | Gly | Met | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Gly | Gly | Gln | Asp | Gly | Ser | Cys | Pro | Arg | Ala | Ala | Leu | Ala | His | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Ala | Gln | Met | Thr | Pro | Gly | Val | Asp | Pro | Ala | Ile | Trp | Val | Arg | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Ile | Pro | Ser | His | Ala | Asp | Ser | Pro | Ala | Ser | Trp | Gly | Thr | Phe | Arg |
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| Pro | Gly | Leu | Ser | Pro | Gly | Thr | Leu | Gly | Pro | Tyr | Met | Gly | Met | Arg | Ala |
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| Gly | Ala | Gln | Met | Thr | Pro | Gly | Val | Asp | Pro | Ala | Ile | Trp | Val | Arg | Ser |
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